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August 16, 2007

PUBLIC UTILITIES  
COMMISSION

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The Honorable Chairman and Members of  
the Hawaii Public Utilities Commission  
Kekuanaoa Building  
465 South King Street, First Floor  
Honolulu, Hawaii 96813

Dear Commissioners:

Subject: Docket No. 2006-0386  
HECO 2007 Test Year Rate Case  
HECO's Information Requests to the Consumer Advocate and DOD

In accordance with the Revised Stipulated Procedural Schedule, as approved by the Commission on May 17, 2007 in Order No. 23442, enclosed are Hawaiian Electric Company, Inc.'s ("HECO") information requests to the Consumer Advocate and the Department of Defense ("DOD").

Sincerely,

Dean K. Matsuura  
Director, Regulatory Affairs

Enclosures

cc: Division of Consumer Advocacy  
Dr. Khojasteh Davoodi  
Randall Y.K. Young, Esq.  
Sawvel & Associates, Inc.  
Utilitech, Inc.  
David Parcell, Technical Associates, Inc.  
Ralph Smith, Larkin & Associates  
Stephen Hill, Hill Associates  
Maurice Brubaker, Brubaker & Associates

Docket No. 2006-0386

Hawaiian Electric Company, Inc.  
Information Requests to  
Division of Consumer Advocacy ("CA")

HECO/CA-IR-101

Ref: CA-T-1, page 104-105 (Accumulated Deferred Income Taxes  
related to AFUDC in CWIP)

Under the consistent solution to the deferred taxes associated with AFUDC, the Consumer Advocate recommends "all deferred taxes associated with AFUDC be included in rate base (not eliminated), because these deferred taxes arise from the jurisdictional operations of the regulated electric business." The Regulatory Asset for AFUDC Equity Gross Up is set up to compensate for the deferred taxes on AFUDC Equity the Company is required to provide as a result of the adoption of FAS 109. Please confirm that this consistency would dictate that the Regulatory Asset for AFUDC Equity Gross Up, net of the related deferred income taxes, should be included in rate base or explain why this is not the case.

Hawaiian Electric Company, Inc.  
Information Requests to  
Division of Consumer Advocacy ("CA")

HECO/CA-IR-201

Ref: CA-213, lines 26 through 35, CA-215 page 2, lines 40 through 49 and CA-WP-215, page 4.

The purchased energy prices - ( $\text{\$/kWh}$ ) for the independent purchased power producers (IPPs) cite CA-WP-215, page 4 as the source for the purchased energy prices. CA-WP-215, page 4, column D is the payment rates, based on purchased power fuel expense (Column F) divided by GWh Purchased (Column B).

For each IPP listed, there are differences between the purchased power fuel expense in column F and the Consumer Advocate's detailed energy expense calculations workpapers as follows:

	<u>CA-WP-215</u> <u>page 4,col F</u>	<u>CA detailed</u> <u>WP Amt</u>	<u>Detailed</u> <u>WP Source</u>
Kalaeloa - Fuel	145,372,200	145,449,263	CA-WP-210, pg 1
Kalaeloa - Additive	2,374,300	2,385,263	CA-WP-210, pg 1
AES	41,125,900	42,031,578	CA-WP-210, pg 3
HPower - On Peak	25,106,800	25,157,106	CA-WP-210, pg 8
HPower - Off Peak	8,777,800	8,798,231	CA-WP-210, pg 8
HPower-On Pk excess	0	0	CA-WP-210, pg 8
HPower-Off Pk excess	4,845,400	4,852,411	CA-WP-210, pg 8
Chevron - On Peak	50,200	50,215	CA-WP-210, pg 9
Chevron - Off Peak	27,100	27,146	CA-WP-210, pg 9
Tesoro - On Peak	451,700	451,083	CA-WP-210, pg 9
Tesoro - Off Peak	244,200	243,852	CA-WP-210, pg 9

- a. If the purchased power fuel expenses in CA-WP-215, page 4 column F are the proper expenses in determining the payment rates in the calculation of the ECA factors at present rates and proposed rates, please provide workpapers in support of the fuel expenses.
- b. If the purchased power fuel expenses from the detailed workpapers as described above are the proper expenses, please correct CA-WP-215 page 4 and the purchase power fuel expenses in column F and recalculate the payment rates for each IPP.
- c. Please correct CA-213 and CA-215 and recalculate the ECA factors to reflect all changes made by the Consumer Advocate.
- d. What ECA factor did the Consumer Advocate use to derive its estimate of revenues at present rates?
- e. Please recalculate the ECAC revenues at present rates and submit all applicable calculations, exhibits and workpapers.

HECO/CA-IR-202

Ref: CA-WP-213, page 1, line 5 column A; line 18, column A; line 5

Note.

The fuel additive cost per bbl on line 5 column A and line 18 column A is \$0.0199/bbl. The \$0.0199/bbl calculation is determined by dividing the additive expense of \$113,000 by Kahe bbls of 5,685,644 bbls, as referenced on Line 5 Note. The Consumer Advocate's fuel additive expense and Kahe barrels are \$111,382 (CA-WP-205, page 2

line 9) and 5,714,981 bbls (CA-204, page 1 line 2 column D), respectively. The fuel additive cost per barrel is  $111,382 \div 5,714,981 = \$0.0195/\text{bbl}$ .

- a. Does the Consumer Advocate agree that the fuel additive cost per barrel should be \$0.0195/bbl?
  - i. If yes, please correct and recalculate the fuel price per barrel and fuel price per Mbtu in CA-WP-205 and the calculations of the ECA factor at proposed rates in CA-215.
  - ii. If no, please explain.

HECO/CA-IR-203

Ref: CA-215.

- a. At proposed rates, the ECA factor on line 73 is (0.024) ¢/kWh. Please explain why the ECA factor is not zero.
- b. What ECA factor did the Consumer Advocate use to calculate revenues at proposed rates?
- c. On line 18, the weighted efficiency factor is 0.011189 mbtu/kWh. The weighted efficiency factor for central station in CA-206 line 18 and CA-201 line 7 is 0.011191 mbtu/kwh. If the weighted efficiency factor should be 0.011189, please explain why it should be different and why it should be used in determining the ECA factor. If the weighted efficiency factor on line 18 should be 0.011191, please correct and recalculate the ECA factor.

- d. On line 22, the efficiency factor is 0.011225 mbtu/kWh. The weighted efficiency factor for central station in CA-206 line 18 and CA-201 line 7 is 0.011191 mbtu/kWh. If the efficiency factor should be 0.011225, please explain why it should be different and why it should be used in determining the ECA factor. If the efficiency factor on line 22 should be 0.011191, please correct and recalculate the ECA factor.
- e. Please recalculate the corrected ECA factor at proposed rates to reflect all changes proposed by the Consumer Advocate, recalculate revenue at proposed rates, and submit all other applicable calculations, exhibits and workpapers.

HECO/CA-IR-204

Ref: CA-WP-213 page 3.

- a. On line 5, the DG fuel price at present rates is 1,706.09 ¢/mbtu. Does the Consumer Advocate agree that the DG fuel price at present rates should be zero? If yes, please correct. If no, please explain.
- b. On line 11, the composite cost of generation at present rates is 1,063.92 ¢/mbtu. However, on CA-213 line 15, the composite cost of generation at present rates is 1,056.41 ¢/mbtu. Does the Consumer Advocate agree that the composite cost of generation at present rates should be 1,056.41 ¢/mbtu? If yes, please correct. If no, please explain.

- a. The Consumer Advocate's references for line 3 and line 6 show multiplying the on-peak kWh purchased of Chevron and Tesoro by 14.60 ¢/kwh. In CA-WP-215 page 1, the on-peak avoided cost is 14.64 ¢/kWh.
  - i. Did the Consumer Advocate use 14.60 ¢/kWh in determining Chevron On-Peak Energy Expense of \$50,215 and Tesoro O-Peak Energy Expense of \$451,083? Please explain.
  - ii. If the on-peak 14.60 ¢/kWh was used in determining Chevron's and Tesoro's on-peak energy expense, does the Consumer Advocate agree that 14.64 ¢/kWh should be used instead and the energy expense should be recalculated?
- b. The Consumer Advocate's references for line 4 and line 7 show multiplying the off-peak kWh purchased of Chevron and Tesoro by 11.05 ¢/kWh. In CA-WP-215 page 1, the off-peak avoided cost is 11.08 ¢/kWh.
  - i. Did the Consumer Advocate use 11.05 ¢/kWh in determining Chevron Off-Peak Energy Expense of \$27,146 and Tesoro Off-Peak Energy Expense of \$243,852? Please explain.
  - ii. If the off-peak 11.05 ¢/kWh was used in determining Chevron's and Tesoro's off-peak energy expense, does

the Consumer Advocate agree that 11.08 ¢/kWh should be used instead and the energy expense should be recalculated?

HECO/CA-IR-206

CA-T-2 Production Simulation Input Data and Data Files.

Please provide in hard copy and electronic formats all input data and input files that were used in the Consumer Advocate's production simulation.

HECO/CA-IR-207

CA-T-2 Production Simulation.

HECO provided to the Consumer Advocate electronic copies of HECO's production simulation input files as part of its June 2007 Update.

- a. Did the Consumer Advocate load the P-Month input data using the electronic files provided by HECO for the June 2007 Update, or were the data entered manually (e.g., keypunched from hardcopy)?
- b. If the data were manually entered, was any rounding or truncation of values employed?

HECO/CA-IR-208

CA-T-2, Page 2, Lines 19-21.

The Consumer Advocate states on page 2, lines 19 to 21: "We understand that HECO's version of P-Month may be slightly different than our version, but the results from the models should be comparable."



- a. Please identify the differences between the Consumer Advocate's version and HECO's version.
- b. Given that HECO provided authorization for the Consumer Advocate to obtain HECO's version of P-Month from P Plus Corporation, the software vendor, why are the versions not the same?
- c. Are the differences in results attributable to the differences between Consumer Advocate's and HECO's version?
- d. Did the Consumer Advocate determine a calibration factor using its version of P-Month? If so, please provide the calibration factor.
- e. If the response to part c. is "yes," would the Consumer Advocate be willing to accept HECO's production simulations results, including the calibration factor, for the purposes of ratemaking in this docket?

HECO/CA-IR-209

CA-T-2, Page 6, Line 21 and CA-101, Schedule B, Page 2.

Please confirm that the difference between the Consumer Advocate's Fuel Inventory and HECO's Fuel Inventory is \$58,000 as shown in CA-101, Schedule B, Page 2, as opposed to \$59,000 as shown in CA-T-2, Page 6, Line 21.

HECO/CA-IR-210

CA-T-2, Page 40, Line 15.

Please confirm that the barrels of LSFO inventory should be 771,615 barrels as opposed to 71,615 barrels.

HECO/CA-IR-211

CA-201 Sales Heat Rate.

As shown on CA-201, the Consumer Advocate calculated the “Sales Heat Rate – DG” as 0.010212 MMBTU/kWh. Please confirm that the Consumer Advocate is assuming that the Substation DG generates at the sales (or customer) level and therefore the Sales Heat Rate for DG equals the Net Heat Rate.

Docket No. 2006-0386

Hawaiian Electric Company, Inc.  
Information Requests to  
Division of Consumer Advocacy ("CA")

HECO/CA-IR-301

Ref: CA-101 Schedule B-3

Footnote (c) contains a calculation of the O&M Non-Labor payment lag days.

- a. Please provide a detailed schedule of amounts comprising the total "Other Non-Labor O&M" expense of \$101,225,000.
- b. Please provide a reconciliation of the differences in the "Other Non-Labor O&M" expense of \$101,225,000, and the "Other Non-Labor O&M" expense of \$97,974,000 presented by HECO in response to DOD-IR-100, page 9. Please provide explanations or references for each reconciling item.

HECO/CA-IR-302

Ref: CA-304

In each rate case, a portion of the test year NPPC is transferred to plant and, therefore, is not included in test year expenses. What is the basis for including the amount of NPPC transferred to plant in total "NPPC in rates" (col. C)?

- a) Is it the Consumer Advocate's position that ratepayers have funded the "pension asset" claimed by HECO?
- b) If the response to (a) is yes, please explain how ratepayers have provided the funds.
- c) Is it the Consumer Advocate's position that amounts contributed to the Pension Fund in excess of the NPPC amount (in years in which the NPPC was positive) were funded by ratepayers? If yes, please explain?
- d) Does the Consumer Advocate agree that contributions made to the Pension Fund that are in excess of the NPPC result in a lower NPPC in future years (than if only NPPC had been contributed)? If no, please explain.
- e) Is it the Consumer Advocate's position that HECO's rates set in HECO's 1995 rate case were too high during the period from 1996 to 2005, and should have been reduced to reflect the decrease in NPPC from the estimate used in determining revenue requirements in the 1995 test year rate case?
- f) Did the Consumer Advocate review HECO's filed results of operations following any of the years in which HECO's NPPC was negative (1999-2002, 2004), and assess or make a determination as to whether HECO's rates should be reduced or a rate investigation should be initiated? Please explain.

g) Is the Consumer Advocate aware of a ratemaking process in Hawaii pursuant to which a utility can request that its rates be kept the same, but that the components of revenue requirements (including NPPC, net of transfers) be reset to reflect current conditions? If yes, please explain.

Docket No. 2006-0386

Hawaiian Electric Company, Inc.  
Information Requests to  
Division of Consumer Advocacy ("CA")

HECO/CA-IR-401

Ref: CA T-4, p.11, lines 7-9

Please provide all source data used to determine that the business cycles since 1975 occurred in the manner specified on lines 7-11 on page 11 of the direct testimony.

HECO/CA-IR-402

Ref: CA T-4, p. 26

- a. Please provide the data by company by year used to calculate the common equity ratios shown on lines 2 to 7 of page 26.
- b. Please provide the data by company by year used to calculate the common equity ratios shown on lines 24 to 28 of page 26.

HECO/CA-IR-403

Ref: CA T-4, p.11, lines 7-11

Please provide the financial literature that supports the statement that the DCF formula shown on line 3 of page 35 of the direct testimony is a quarterly compounding variant.

HECO/CA-IR-404

Ref: CA T-4, p.11, lines 7-11

Please provide all source information used to derive the April-June 2007 average 20-year Treasury bond yields.

HECO/CA-IR-405

Ref: CA T-4, p.1

Please provide your return on equity recommendation and the return on equity authorized for each electric/gas case in which you have testified in the last five years along with a copy of such testimonies. Please also provide the prevailing yield on long-term Treasury bonds at the time of preparing these testimonies.

HECO/CA-IR-406

Ref: CA T-4, p. 31-32

Please provide the currently authorized return on equity for the each of the electric utilities in your two samples of comparable companies.

HECO/CA-IR-407

Ref: CA T-4, p. 36, lines 6-18

- a. On page 36 lines 6-18, explain the pros and cons of using each of the data series of Earnings Per Share ("EPS"), Dividends Per Share ("DPS"), and Book Value Per Share ("BVPS") individually for calculating the growth in dividend figure to be used in the Discounted Cash Flow ("DCF") model.
- b. Explain how taking the collective average of the individual EPS, DPS, and BVPS series mean and median values provides a meaningful estimate of dividend growth as used in the DCF model.

HECO/CA-IR-408

Ref: CA-405

Please restate the common equity ratios cited on Exhibit CA-405 excluding short-term debt.

HECO/CA-IR-409

Ref: CA-406

To Mr. Parcell's knowledge, do the capital structures for the companies in his two groups of comparables shown on CA-406 reflect "per books" capital structure or the latest capital structure approved by the state regulatory commission?

HECO/CA-IR-410

Ref: CA T-4, p.31-32

Which of the companies in Mr. Parcell's sample groups have rates set using future test years and which of those companies have rates set using historical test years?

HECO/CA-IR-411

Ref: CA-406

- a. Please provide complete copies of the information regarding the amount of purchased power utilized by the companies in Mr. Parcell's two sample groups that he used to assess the relative risk of HECO's power supply portfolio.
- b. Has Mr. Parcell made any assessment of the degree to which the Company's purchased power debt equivalents increases the Company's financial risk? If so, what are his findings? If not, why not?

HECO/CA-IR-412

Ref: CA-408 and 411



Please provide the relevant portions of the S&P Handbook data source document cited in Mr. Parcell's Schedules CA-408 and CA-411.

HECO/CA-IR-413

Ref: CA T-4, pages 19-20

Does the CA acknowledge that HECO's current corporate credit rating and preferred stock rating by Standard & Poor's is in the "BBB" and "BB+" category, respectively, vs. the "BBB+" and "BBB-" as stated in CA-T-4, page 19, line 39 and page 20, line 11, respectively?

HECO/CA-IR-414

Ref: CA-414

The CA reflects a 10.00% cost rate for the purchased power debt equivalent. Please provide the basis for and any source document for this 10.00% rate assumption.

Docket No. 2006-0386

Hawaiian Electric Company, Inc.  
Information Requests to  
Division of Consumer Advocacy ("CA")

HECO/CA-IR-501

Ref: CA-502 (FERC Electric Rate Handbook).

Please provide a publication date and table of contents for the FERC electric rate handbook referenced in CA-502.

HECO/CA-IR-502

Ref: CA-T-5, Page 31, Lines 10-11 and CA-504.

On page 31, lines 10 to 11, the Consumer Advocate refers to exhibit CA-504 which appears to be missing. Please provide exhibit CA-504 along with any associated workpapers.

HECO/CA-IR-503

Are there any aspects of the DOD's cost-of-service/rate design testimony (DOD T-3) to which you disagree? If so, please fully explain what you disagree with and why.

Docket No. 2006-0386

Hawaiian Electric Company, Inc.  
Information Requests to  
Department of Defense ("DOD")

HECO/DOD-IR-101

Ref: DOD-108

In each rate case, a portion of the test year NPPC is transferred to plant and, therefore, is not included in test year expenses. What is the basis for including the amount of NPPC transferred to plant in total "NPPC in rates" (col. C)?

HECO/DOD-IR-102

Ref: DOD T-1, pages 8-12

- a) Is it the DOD's position that ratepayers have funded the "pension asset" claimed by HECO?
- b) If the response to (a) is yes, please explain how ratepayers have provided the funds.
- c) Is it the DOD's position that amounts contributed to the Pension Fund in excess of the NPPC amount (in years in which the NPPC was positive) were funded by ratepayers? If yes, please explain?
- d) Does the DOD agree that contributions made to the Pension Fund that are in excess of the NPPC result in a lower NPPC in future years (than if only NPPC had been contributed)? If no, please explain.

- e) Is it the DOD's position that HECO's rates set in HECO's 1995 rate case were too high during the period from 1996 to 2005, and should have been reduced to reflect the decrease in NPPC from the estimate used in determining revenue requirements in the 1995 test year rate case?
- f) Did the DOD review HECO's filed results of operations following any of the years in which HECO's NPPC was negative (1999-2002, 2004), and assess or make a determination as to whether HECO's rates should be reduced or a rate investigation should be initiated? Please explain.
- g) Is the DOD aware of a ratemaking process in Hawaii pursuant to which a utility can request that its rates be kept the same, but that the components of revenue requirements (including NPPC, net of transfers) be reset to reflect current conditions? If yes, please explain.

HECO/DOD-IR-103

Ref: DOD T-1, Page 24

The testimony states that "The ADIT for 'AFUDC on CWIP' represents cost-free capital recorded on the utility's books that should be recognized in the ratemaking process. There are generally two ways to recognize such ADIT: 1) by reducing rate base for such ADIT, or 2) by reducing the CWIP investment base, upon which AFUDC is accrued for such ADIT." Please describe

more fully what is meant by alternative 2), and what is entailed, from an accounting and ratemaking perspective, in “reducing the CWIP investment base,” in light of the fact that CWIP is not included in rate base.

HECO/DOD-IR-104

Ref: DOD T-1, Exhibit DOD-101, page 2 (Adjusted Rate Base).

Presented on line 10 in the reference exhibit is an adjusted rate base balance of \$1,152,596,000.

- a. Please reconcile and describe the difference in this adjusted rate base balance and the adjusted rate base balance presented in DOD-103, Column C, line 23 of \$1,150,720,000.
- b. Please confirm what is the adjusted rate base balance utilized and presented by the DOD in this testimony.

Docket No. 2006-0836

Hawaiian Electric Company, Inc.  
Information Requests to  
Department of Defense ("DOD")

HECO/DOD-IR-201

Ref: DOD T-2, p. 1-2

- a. Please identify each rate case for an investor-owned regulated electric utility, natural gas utility or combination electric and natural gas utility, in which Mr. Hill has testified since January 1, 2002.
- b. Please provide Mr. Hill's recommended return on equity for each rate case identified in part (a).
- c. Please provide the prevailing yield on long-term Treasury bonds at the time Mr. Hill submitted his recommended return on equity for each rate case identified in part (a).

HECO/DOD-IR-202

Ref: DOD T-2

- a. Is Mr. Hill currently teaching any college-level finance (corporate finance, investments, banking, etc.) courses?
- b. Has Mr. Hill taught any college-level finance (corporate finance, investments, banking, etc.) courses in the last five years?

- c. If the answer to parts (a) and/or (b) is affirmative, please identify the subjects of such courses and the syllabus and a list of textbooks/readings used in each course identified.

HECO/DOD-IR-203

Ref: DOD T-2

Has Mr. Hill ever presented formal cost of capital seminars to professional groups such as such as the National Association of Regulatory Commissioners, the National Association of State Utility Consumer Advocates, or any state regulatory commission? If so, please provide a syllabus, table of contents, and list of references used in those seminars.

HECO/DOD-IR-204

Ref: DOD T-2

Please provide copies and/or summaries of any peer-reviewed book, monograph or article authored or co-authored by Mr. Hill in the last five years dealing with the subject of finance and/or regulation.

HECO/DOD-IR-205

Ref: DOD T-2, p. 3, lines 18-21

Please provide a complete copy of the relevant sections of the Hope and Permian Basin decisions where the “Court also makes quite clear” that regulation does not guarantee profitability and that, while investor interests (profitability) are certainly pertinent to setting adequate rates, those interests do not exhaust the relevant considerations.

HECO/DOD-IR-206

Ref: DOD T-2, p. 4, footnote 2

Please provide a copy of the document referred to in footnote 2 and of the more recent editions of that document.

HECO/DOD-IR-207

Ref: DOD T-2, p. 6-8

- a) Does Mr. Hill’s professional qualifications and background include actuarial science?
- b) Has Mr. Hill ever performed actual and/or projected pension fund returns as part of an actuarial process? If so, please provide copies of such studies.

HECO/DOD-IR-208

Ref: DOD T-2, p. 8, footnote 5



Please provide a copy of A.G. Edwards, "Gas Utilities Quarterly Review" dated April 5, 2007, and any edition of A.G. Edwards, "Gas Utilities Quarterly Review" dated subsequent to April 2007.

HECO/DOD-IR-209

Ref: DOD T-2, p. 8, lines 22-24

Please provide a copy of, and citation to, the referenced Value Line material(s).

HECO/DOD-IR-210

Ref: DOD T-2, p. 9, lines 22-23

Please provide a copy of, and citation to, each of the "articles [in] the financial journals," to which the letter to the editor in the Public Utilities Fortnightly article refers and upon which Mr. Hill subsequently comments.

HECO/DOD-IR-211

Ref: DOD T-2, p. 9, lines 18-24

- a. Please provide a copy of Hyman, Leonard, Senior Consultant, R.J. Rudden Associates, Letters to the Editor, Public Utilities Fortnightly, August 2004, p. 10.
- b. Please provide a copy of the relevant portion of the document cited in footnote 6.

HECO/DOD-IR-212

Ref: DOD T-2, p. 11, lines 1-3

Please provide a copy of, and citation to, the Dimson, Marsh, Staunton article cited on lines 1-3 and the document cited in footnote 9.

HECO/DOD-IR-213

Ref: DOD T-2, p. 11, lines 26-27

Please provide a copy of the chapter from which the excerpt from Stocks for the Long Run, a Guide to Selecting Markets for Long-term Growth (Irwin Professional Publishing, Chicago, IL, 1994, pp.11-15) was taken.

HECO/DOD-IR-214

Ref: DOD T-2, p. 12, footnote 11

Please provide a copy of Fama, E., French, K., "The Equity Premium," *The Journal of Finance*, Vol. LVII, No. 2, April 2003, pp. 637-659.

HECO/DOD-IR-215

Ref: DOD T-2, p. 13, footnote 12

- a. Please provide a copy of, and citation to, the Harvey survey cited in footnote 12.
- b. Please provide a copy of the three independent papers referred to on lines 11-15.

HECO/DOD-IR-216

Ref: DOD T-2, p. 13, lines 21-22 to p. 14, lines 1-2

- a. Is there any reason why Mr. Hill chose not to report the research findings of Ibbotson, R, Chen, P., "Long-Run Stock Returns: Participating in the Real Economy," *Financial Analysts Journal*, January/February 2003 as he has in previous testimonies? Please explain why this article was not referenced this time.
- b. Is Mr. Hill aware of any recent updates to the Ibbotson/Chen study referred to in part (a)? If so, please provide the findings of that study with respect to the market risk premium.

HECO/DOD-IR-217

Ref: DOD T-2, p. 15, lines 2-3

To what other "recent academic research" is Mr. Hill referring?  
Please provide copies of this research.

HECO/DOD-IR-218

Ref: DOD T-2, p. 15, lines 4-12

- a. Please define the term "econometric models" as commonly employed in the fields of finance, economics, and statistics.
- b. Please explain how the capital asset pricing model ("CAPM") constitutes an econometric method?

- c. Please explain how the DCF methodology constitutes an econometric method.
- d. Please explain how the Earnings Price Ratio and Market-to-Book methodologies constitute an econometric method?

HECO/DOD-IR-219

Ref: DOD T-2, p. 16, line 10

You state that long-term interest rates have fluctuated in a range of 4.5% - 5.5%. Please reconcile this statement with the use of 4.85% risk-free rate used in your CAPM analysis.

HECO/DOD-IR-220

Ref: DOD T-2, p. 17, footnote 18

Please provide a copy of the weekly editions (4/20/07 - 5/25/07) of Value Line *Selection & Opinion* and each subsequent weekly edition of Value Line *Selection & Opinion*.

HECO/DOD-IR-221

Ref: DOD T-2, p. 18-19

- a. Please provide a copy of the Value Line Quarterly Economic Review cited on page 18, line 9.
- b. Please provide a copy of The Value Line Investment Survey, *Selection & Opinion*, May 25, 2007, pp. 4709-4710, cited on page 19, lines 23 to 25.

HECO/DOD-IR-222

Ref: DOD T-2, p. 49, footnote 28

Please provide a copy of Kolbe, Read, Hall, The Cost of Capital, Estimating the Rate of Return for Public Utilities, 25-33 (1986).

HECO/DOD-IR-223

Ref: DOD T-2, p. 49, footnote 28

Please provide a copy of Lawrence Booth, "The Importance of Market-to-Book Ratios in Regulation," NRRI Quarterly Bulletin, Vol. 18, No. 4 (Winter 1997).

HECO/DOD-IR-224

Ref: DOD T-2, Exhibit DOD-205, p. 3

Please provide a copy of the June 2007 edition of AUS Utility Reports.

HECO/DOD-IR-225

Ref: DOD T-2, p. 39, footnote 22

Please provide a copy of "A Note on Transaction Costs and the Cost of Common Equity for a Public Utility," Habr, D., National Regulatory Research Institute Quarterly Bulletin, January 1988.

HECO/DOD-IR-226

Ref: DOD T-2, p. 44, footnote 26

Please provide a copy of National Association of Regulatory Commissioners, "Utility Regulatory Policy in the United States and Canada," Compilation 1994-1995.

HECO/DOD-IR-227

Ref: DOD T-2, p. 44, lines 4-7

- a. Please provide a copy of the relevant portions of the transcript referred to on lines 4-5, including the full text of what was said in that response.
- b. Please provide the Georgia Commission's final order in the proceeding cited on line 7.
- c. What ROE did the Commission allow in the Georgia rate case referred to on line 7?
- d. What was Mr. Hill's ROE recommendation in that proceeding?

HECO/DOD-IR-228

Ref: DOD T-2, p. 54, footnote 32

Please provide a copy of Fama, E., French, K., "The Cross-Section of Expected Stock Returns," *The Journal of Finance*, Vol. XLVII, No. 2, June 1992, pp. 427-465.

HECO/DOD-IR-229

Ref: DOD T-2, p. 60, lines 14-15

Please provide copies of the "current research [that] indicates that the market risk premium going forward ranges from 0% to a maximum of about 5%".

HECO/DOD-IR-230

Ref: DOD T-2, p. 62, lines 1-5

- a. Please provide copies of all the research that indicates that there is negative autocorrelation in the historical data.
- b. Is Mr. Hill aware of the Ibbotson (now Morningstar) research regarding the degree of autocorrelation in historical returns provided in the SBBI Valuation Edition, 2007 Yearbook referred to in footnote 8 page 10? If so, what are Ibbotson's conclusions regarding the degree of autocorrelation in historical returns?

HECO/DOD-IR-231

Ref: DOD T-2, p. 60, footnote 35

Please provide a copy of Ibbotson, R., Peng, C., "Long-Run Stock Returns: Participating in the Real Economy," *Financial Analysts' Journal*, January/February 2003, pp. 88-98.

HECO/DOD-IR-232

Ref: DOD T-2, p. 55, lines 23-25

Please provide a copy of Fama, E., French, K., "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives*, Vol. 18, No. 3, Summer 2004.

HECO/DOD-IR-233

Ref: DOD T-2, p. 55, footnote 33

Please provide a copy of the Fama-French publication cited in footnote 33.

HECO/DOD-IR-234

Ref: DOD T-2, p. 12, lines 6-10

Please provide copies of, and citations, to any and all workpapers, articles, or publications (including but not limited to any electronic workpapers, articles, or publications) relied upon by Mr. Hill that substantiate Mr. Hill's assertion that recent research on the historical market risk premium shows that the Morningstar data overstate long-term historical market risk premiums.

HECO/DOD-IR-235

Ref: DOD T-2, p. 39, line 18

Other than the memo referred to in footnote 22, please provide copies of, and citations, to any and all workpapers, articles, or publications (including but not limited to any electronic workpapers, articles, or publications) relied upon by Mr. Hill that



substantiate Mr. Hill's statement that "research has shown that a specific adjustment for issuance expenses is unnecessary."

HECO/DOD-IR-236

Ref: DOD T-2, p. 38-39

Please provide copies of, and citations, to any and all workpapers, articles, textbooks, or publications (including but not limited to any electronic workpapers, articles, or publications) of which Mr. Hill is aware regarding the subject of issuance expenses (flotation costs).

HECO/DOD-IR-237

Ref: DOD T-2, p. 59, lines 1-3

Please provide copies of, and citations, to any and all workpapers, articles, or publications (including but not limited to any electronic workpapers, articles, or publications) relied upon by Mr. Hill that substantiate Mr. Hill's statement that " over the past five years, utility stocks have been more volatile than the stocks in the broader market and the result is a dramatic and unusual increase in the average utility beta."

HECO/DOD-IR-238

Ref: DOD T-2, p. 68, lines 8-10

Please provide copies of, and citations, to any and all workpapers, articles, or publications (including but not limited to any electronic workpapers, articles, or publications) relied upon by Mr. Hill that substantiate Mr. Hill's that in the 1930-1960 period " stock returns were quite volatile showing very wide swings while bond returns were less volatile.."

HECO/DOD-IR-239

Ref: DOD T-2

- a. Please provide Mr. Hill's definition of the following terms:
  - i. Expected return
  - ii. Required return
  - iii. Cost of capital
- b. Are the three above terms synonymous? If not, what is the difference between, or differences among, expected return, required return, and cost of capital?

HECO/DOD-IR-240

Ref: DOD T-2, p. 5

- a. Please define the term "objective evidence."
- b. Does Mr. Hill consider individual investor expected return projections (pension funds, analysts, etc.) objective? If so, why? If not, why not?

- c. Does Mr. Hill consider individual investor expected return projections (pension funds, analysts, etc.) representative of the consensus opinion? If so, why? If not, why not?

HECO/DOD-IR-241

Ref: DOD T-2, p. 29-30

Please identify each investor-owned regulated electric utility, natural gas utility or combination electric and natural gas utility with a market capitalization in excess of \$1 billion, with an allowed rate of return on common equity that is equal to, or less than, 9.25%.

HECO/DOD-IR-242

Ref: DOD T-2, p. 12, line 2

Is the reference to a market risk premium of 3.4% - 5.1% based on arithmetic or geometric mean returns? If based on geometric mean returns, please restate these estimates on the basis of arithmetic mean returns.

HECO/DOD-IR-243

Ref: DOD T-2, p. 12, line 24

Is the reference to a market risk premium of 2.6% - 4.3% based on arithmetic or geometric mean returns? If based on geometric mean

returns, please restate these estimates on the basis of arithmetic mean returns.

HECO/DOD-IR-244

Ref: DOD T-2, p. 13, line 4

Is the reference to a market risk premium of 2.5% - 4.5% based on arithmetic or geometric mean returns? If based on geometric mean returns, please restate these estimates on the basis of arithmetic mean returns.

HECO/DOD-IR-245

Ref: DOD T-2, p. 13, line 14

Is the reference to a market risk premium of 3.0% - 4.0% based on arithmetic or geometric mean returns? If based on geometric mean returns, please restate these estimates on the basis of arithmetic mean returns.

HECO/DOD-IR-246

Ref: DOD T-2, p. 31, lines 17-18

Please list the companies in your sample group that have nuclear generation assets and the percentage of their generation that is nuclear.

HECO/DOD-IR-247

Ref: DOD T-2, p. 28-29

Given the perpetual long-term nature of the growth term in the discounted cash flow ("DCF") model, please explain in detail why Mr. Hill did not use or consider any longer-term period for determining growth in the DCF analysis.

HECO/DOD-IR-248

Ref: DOD T-2, p. 25-26

- a. What risk adjustment factor (10%, 20%, 30%, etc....) does Standards & Poor's ("S&P") employ for imputing purchased power obligations for Hawaiian Electric Company, Inc.
- b. What risk adjustment factor (10%, 20%, 30%, etc....) does S&P employ for imputing purchased power obligations for each and every regulated electric utility that controls, is controlled by, or under common control with, any entity identified on DOD-206 of Mr. Hill's testimony.

HECO/DOD-IR-249

Ref: DOD T-2, p. 25-26

- a. Please provide the purchased power expense per dollar of electric utility plant of Hawaiian Electric Company, Inc. ("HECO"), after excluding any purchase power expense incurred by HECO for power purchases from any entity

that controls, is controlled by, or under common control with, HECO.

- b. Please provide the purchased power expense per dollar of electric utility plant of each and every regulated electric utility that controls, is controlled by, or under common control with, any entity identified on DOD-206 of Mr. Hill's testimony, after excluding any purchase power expense incurred by such electric utility for power purchases from any entity that controls, is controlled by, or under common control with, such electric utility.

HECO/DOD-IR-250

Ref: DOD T-2, p. 23, lines 1-6 and p. 30, lines 22-23

- a. Please provide the Standard & Poor's ("S&P") source document(s) that support(s) the business position of each and every regulated electric utility that controls, is controlled by, or under common control with, any entity identified on DOD-206 of Mr. Hill's testimony.
- b. Please provide the S&P source document(s) that support(s) the business position of each and every regulated natural gas utility that controls, is controlled by, or under common control with, any entity identified on lines 20-24 of page 22 of Mr. Hill's testimony.

HECO/DOD-IR-251

Ref: DOD T-2, p. 39, lines 17-19

Please identify each of the "other transaction costs" that "eliminate the need for an explicit issuance expense adjustment to equity capital costs."

HECO/DOD-IR-252

Ref: DOD T-2, p. 43, lines 17-24

- a. Does the Federal Energy Regulatory Commission (FERC) still rely on the constant growth discounted cash flow formula established in the 1980s and 1990s?
- b. If the response to part (a) is negative, when did FERC stop using the constant growth discounted cash flow formula established in the 1980s and 1990s?
- c. If the response to part (a) is negative, why did FERC abandon the constant growth discounted cash flow formula established in the 1980s and 1990s?

HECO/DOD-IR-253

Ref: DOD T-2, p. 43, lines 17-24

- a. Please provide the average return on common equity authorized by the Federal Energy Regulatory Commission ("FERC") since January 1, 2006.

- b. Is the average return on common equity authorized by FERC since January 1, 2006, higher or lower than Mr. Hill's discounted cash flow estimates in this proceeding?
- c. Is the average return on common equity authorized by FERC since January 1, 2006, higher or lower than Mr. Hill's recommended return on common equity in this proceeding?

HECO/DOD-IR-254

Ref: DOD T-2, p. 54, lines 23-25

Is Mr. Hill aware of any peer-reviewed book, monograph or article discussing the Fama-French result regarding the efficacy of beta? If so, please provide copies of such book(s), monograph(s) or article(s). If not, why is Mr. Hill unaware of this literature?

HECO/DOD-IR-255

Ref: DOD T-2, p. 14, lines 14-16

Did Mr. Hill adjust his risk-free rate proxy in his capital asset pricing model analysis to make the maturity premium adjustment to the risk-free rate proposed by Professor Meyers? If so, where? If not, why not?

HECO/DOD-IR-256

Ref: DOD T-2, p. 68, lines 7-8



- a. Please describe the "fundamental changes in the nature of the relationship between stock returns and bond returns over the past sixty or seventy years."
- b. Please describe how such "fundamental changes in the nature of the relationship between stock returns and bond returns over the past sixty or seventy years" have altered the relationship between stock returns and bond returns over the corresponding past sixty or seventy years.
- c. Please provide copies of, and citations, to any and all workpapers, articles, or publications (including but not limited to any electronic workpapers, articles, or publications) relied upon by Mr. Hill that substantiate Mr. Hill's assertion that "there have been fundamental changes in the nature of the relationship between stock returns and bond returns over the past sixty or seventy years."

HECO/DOD-IR-257

Ref: DOD-213

- a. Please provide copies of, and citations, to any and all workpapers, articles or publications (including but not limited to any electronic workpapers, articles or

publications) supporting the Modified Earnings Price Ratio model.

- b. Please identify each financial witness, of which Mr. Hill is aware, that relies on the Modified Earnings Price Ratio Model in regulatory proceedings.
- c. Please provide copies of any regulatory commission decisions that use the Modified Earnings Price Model in authorizing a return on equity for a utility.

HECO/DOD-IR-258

Ref: DOD-205, p. 3

Please provide the common equity ratio for each electric utility identified on page 3 of Exhibit No. DOD-205, after excluding amounts related to unregulated operations from the common equity balances for each utility.

HECO/DOD-IR-259

Ref: DOD-208

- a. Please identify each regulated electric utility that controls, is controlled by, or under common control with, each entity identified on page 2 of Exhibit No. DOD-208.
- b. Please identify each jurisdiction and the regulatory body for such jurisdiction in which each regulated electric utility identified in part (a) operates.

- c. Please provide the return on equity authorized by each regulatory body identified in part (b) for each electric utility identified in part (a).
- d. Please provide the capital structure authorized by each regulatory body by each regulatory body identified in part (b) for each regulated electric utility identified in part (a).

HECO/DOD-IR-260

Ref: DOD-208, p. 2

Please explain why each of the growth indicators reported was restricted to a 5-year period.

HECO/DOD-IR-261

Ref: DOD-211, p. 1

- a. Please provide the most recent six-week average 30-year T-bond yield published by Value Line.
- b. Please provide the most current yield on 30-year T-bonds?

HECO/DOD-IR-262

Ref: DOD T-2, p. 36, lines 16-17

- a. Please provide copies of, and citations, to any and all workpapers, articles, or publications (including but not limited to any electronic workpapers, articles, or

publications) that substantiate Mr. Hill's assertion that "that average beta is unusually high for electric utilities and overstates the relative risk of that group."

- b. Could the Value Line betas be unusually low as well and understate the relative risk of that group? Why, or why not?

HECO/DOD-IR-263

Ref: DOD T-2, p. 63, lines 1-7

- a. In previous testimonies, has Mr. Hill ever relied on a PowerPoint slide from a presentation offered at a financial conference as supportive evidence in his testimony? If so, please supply copies of such testimonies.
- b. Were there additional PowerPoint slides presented by Professor Marston at the financial conference? If so, please supply copies of the entire presentation.
- c. Were the research findings offered by Professor Marston at that conference ever published in a publication, journal, textbook subject to peer review? If so, please provide a copy of such publication.
- d. Were there other speakers and other formal presentations at the financial conference on the subject of the market risk premium? If so, please provide copies of these presentations.

- e. Please provide copies of Mr. Hill's presentation at that conference.

HECO/DOD-IR-264

Ref: DOD T-2, p. 74, lines 26-30

Please provide a copy of A. Dugar and S. Nathan, "The Effect of Investment Banking Relationships on Financial Analysts' Earnings Investment Recommendations," *Contemporary Accounting Research* 12 (1995), pp. 131-160.

HECO/DOD-IR-265

Ref: DOD T-2, DOD-206

- a. Why did Mr. Hill choose to omit the "Allowed ROE" column from the AUS Utility Report shown in DOD-206?
- b. Please provide the "Allowed ROE" data shown in the AUS publication for each company shown on DOD-206.

HECO/DOD-IR-266

Ref: DOD T-2, DOD-208, p. 2, table note

Please provide a copy of the source document from which the Zacks growth rates were taken.

HECO/DOD-IR-267

Ref: DOD T-2, DOD-211, table note

Please provide a copy of the Morningstar 2006 SBBI Yearbook document referred to at the bottom of DOD-211. Why did Mr. Hill choose the 2006 edition rather than the more recent 2007 edition of that document?

HECO/DOD-IR-268

Ref: DOD T-2

- a. In the last two years, has Mr. Hill's testimony been stricken or withdrawn in any case in which he submitted testimony? If so, please state the regulatory commission or jurisdiction, the docket number, and the reason why such testimony was stricken or withdrawn.
- b. At pages 29-30 of Mr. Hill's testimony, he discusses the application of additional screening criteria based on "revenues from electric operations." Please provide the data Mr. Hill used to create his electric utility revenue criterion and provide a copy of any related source documents or source databases.

HECO/DOD-IR-269

Ref: DOD T-2, page 19, lines 38-40

The capital structure percentages reflected in DOD T-2, page 19, lines 38-40 do not tie to the Company's requested capital structure as shown on HECO-1901. Please provide the calculation which results in the capital structure percentages noted in DOD T-2, page 19, lines 38-40.

HECO/DOD-IR-270

Ref: DOD T-2, page 20

The capital structure percentages reflected in DOD T-2, page 20, lines 19-21 do not tie to HECO-2101, Docket No. 04-0113. Please provide the calculation which results in the capital structure percentages noted in DOD T-2, page 20, lines 19-21.

Docket No. 2006-0386

Hawaiian Electric Company, Inc.  
Information Requests to  
Department of Defense ("DOD")

HECO/DOD-IR-301

Ref: DOD-309 (Voltage Level Refinement to Schedule "PP").

Please provide the calculations and/or workpaper support for the numerical values presented in DOD-309.

HECO/DOD-IR-302

Are there any aspects of the Consumer Advocate's cost-of-service/rate design testimony (CA-T-5) to which you disagree? If so, please fully explain what you disagree with and why.